

**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

NORDIC INTERACTIVE
TECHNOLOGIES LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD. and
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

Case No.: 6:20-CV-00064 (ADA)

Judge Alan D. Albright

JURY TRIAL DEMANDED

PLAINTIFF'S OPENING CLAIM CONSTRUCTION BRIEF

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EXHIBITS

Exhibit 1: U.S. Patent No. 6,345,095

Exhibit 2: U.S. Patent No. 7,590,097

Exhibit 3: Richard D. Gitlin Declaration

Exhibit 4: Microsoft Computer Dictionary, 5th Edition

I. INTRODUCTION

Nordic Interactive Technologies LLC (“Nordic”) is the proper assignee and owns U.S. Patent No. 6,345,095 (the “’095 Patent”) and U.S. Patent No. 7,590,097 (the “’097 Patent”). Ex. 1 and Ex. 2. The technology and the subject of the asserted claims of the ’095 Patent relate to processing telephone numbers, while the asserted claims of the ’097 Patent relate to communications between devices in a wireless communications network.

Nordic’s proposed constructions follow black letter law that each claim term is given meaning consistent with the intrinsic and extrinsic evidence and provides reasonable and clear notice of what the claims cover. Nordic respectfully requests the Court adopt its proposed constructions.

II. LEGAL STANDARD

Claim construction is a question of law decided exclusively by this Court. *Markman v. Westview Instruments*, 517 U.S. 370, 372, 116 S. Ct. 1384, 1387 (1996). Claim terms are to be given their “ordinary and customary meaning,” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*). That “ordinary and customary meaning” is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. In determining that meaning, the Court should look first to the intrinsic record—the claims, the specification, and the prosecution history of the patent. *Id.* at 1317. The Court may also consider extrinsic evidence such as expert testimony, dictionaries, and learned treatises if helpful, while keeping in mind that extrinsic evidence is less significant than the intrinsic record. *Id.* A court may investigate extrinsic evidence “to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva Pharmaceuticals USA v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

III. BACKGROUND

The '095 Patent relates to the selection of telephone numbers “for assisting telephone subscribers in connecting to the desired destination when the area code or service code is unknown or has changed.” '095 Patent at 1:8-11.

The '095 Patent addressed “a need for subscriber aids that [permits] the subscriber to choose conveniently and efficiently the most appropriate area code by providing the subscriber with an analysis of any telephone number. *Id.* at 2:37-40. The '095 Patent provided an invention that relates to the selection of a telephone number when the subscriber does not know the full-length telephone number of a called party. Specifically, the '095 Patent introduced a method for processing telephone numbers by monitoring the subscriber's (calling party) call initiation signals, receiving called party information responsive to that monitoring, producing a list of telephone numbers responsive to the received called party information, and accordingly, selecting a target telephone number from the list of telephone numbers in a manner that is responsive to the producing of the list of telephone numbers.

The '097 Patent relates to “communication between devices in a wireless communications network.” '097 Patent at 1:32-34. More specifically, the '097 Patent allows “for performing device detection and service discovery in a mobile ad hoc communications network.” *Id.* at 1:35-36.

Before the '097 Patent “there [was] a need for a device detection and service discovery protocol that will avoid excessive power consumption and allow an application resident in one device to automatically find a counterpart application or some other resource resident in any of the remaining devices within the ad hoc communications network.” *Id.* at 2:57-62. Specifically, there was a need for “a protocol [that] does not require a human user to manually initiate device detection to find the counterpart application or other resource.” *Id.* at 2:62-64.

This is because prior art systems that included service discovery protocols “require sending and replying to inquiry messages” such that if no other device is present, the inquiry messages [were] sent in vain.” *Id.* at 2:41-43. And further, “to avoid excessive power consumption, these prior art systems require[d] a human user to manually initiate device detection when another device of interest is present.” *Id.* at 2:43-46.

To address this need, the ’097 Patent introduced a method for “conducting an inquiry of the mobile ad hoc communications network to discover nearby devices” before a connection is established between devices such that “if the inquiry indicates that the nearby devices may include a middleware layer, the method further comprises creating a connection to each of the nearby devices and confirming whether each of the nearby devices include the middleware layer.” *Id.* at 3:7-13. And further, “for each of the nearby devices that include the middleware layer, the method further comprises executing the middleware layer to perform application and service discovery, and to launch applications and services.” *Id.* at 3:13-17.

IV. PERSON OF ORDINARY SKILL IN THE ART

The parties agreed to the definitions of a person of ordinary skill in the art (a “POSITA”) for each of the patents in this case.

The relevant field in the ’095 Patent is related to subscriber aid in telecommunications. A skilled artisan in this field, a POSITA, at the time of the patents, would have a 4-year degree in computer science or computer or electrical engineering along with 2 years of post-graduate work experience with telecommunications.

The relevant field in the ’097 Patent is wireless communication that allows for device detection and service discovery in a mobile ad hoc communications network. ’097 Patent at 1:35-36. A skilled artisan in this field, a POSITA, at the time of the patents, would have a B.S. in computer science or electrical engineering along with 2 years of experience in mobile ad hoc networking.

V. AGREED CONSTRUCTIONS

A. The '095 Patent

The parties did not come to an agreement on claim terms in the '095 Patent.

B. The '097 Patent

Term	Agreed Construction
“an indication that it [the nearby device] may include a middleware software	Plain and Ordinary meaning
“application and service discovery”	“discovery of available services and/or applications”
“disconnect communication establishment”	“stop the establishment of the communication session”

VI. DISPUTED CLAIM TERMS

The parties dispute one claim term of the asserted claims of the '095 Patent: “call initiation signals.” This term appears in both claims 16 and 30 of the asserted claims.

The parties also dispute two terms of the asserted claims of the '097 Patent: “middleware software,” and “middleware layer” / “the middleware layer” (the parties dispute “the middleware layer.” The term “middleware software” appears in claims 19-24 of the asserted claims, while “middleware layer” / “the middleware layer” is in claims 20-21.

A. The '095 Patent

1) “call initiation signals”

Nordic's Construction	Samsung's Construction
Plain and Ordinary Meaning or Part of a telephone number	“any signal indicating that a calling party is going to place a telephone call”

Nordic and Samsung offer competing constructions to the term “call initiation signals.” Nordic’s proposed construction that “call initiation signals” be defined by its plain and ordinary meaning or simply, as “part of a telephone number” is supported by the language

of the claims in the '095 Patent and the specification of the '095 Patent. In contrast, Samsung proposes a construction that “call initiation signals” are broadly defined as “any signal indicating that a calling party is going to place a telephone call.”

“The patent claim construction process begins with the **language used in the claims** because quite apart from the written description and the prosecution history, **the claims themselves provide substantial guidance** as to the meaning of particular claim terms.” *Lodsys, LLC v. Brother Int'l Corp.*, 2013 U.S. Dist. LEXIS 85614, at *1 (E.D. Tex. June 14, 2013)(emphasis added). Accordingly, “call initiation signals” should be read in view of the full language of the claims to provide guidance as to the meaning of the claim term. As such, claim 16 recites, fully, a method for processing telephone numbers comprising the steps of “monitoring call initiation signals from a calling party; receiving, responsive to the monitoring step, called party information; producing, responsive to the called party information, a list of telephone numbers; and selecting, responsive to the producing step, a target telephone number from the list of telephone numbers.”

Each step recited in the asserted claim is responsive to a previous step. As it relates to “call initiation signals,” the monitoring step occurs initially to monitor for “call initiation signals” and responsive to this, called party information is received. The '095 Patent defines examples of call initiation signals as being any of the following: “a full telephone number”, “a telephone number without an area code”, “a subscriber number without an area code or an exchange code.” '095 Patent at 5:2-9. Reading this part of the specification in combination with the language of the claims, a POSITA would understand that the device monitors for a calling party to enter any part of a telephone number and in turn, after receiving the called party information, the device produces a list of telephone numbers that contain at least the digits input by the calling party. *See* Ex. 3 (Gitlin Declaration) at ¶21.

Accordingly, Samsung’s broad interpretation is insufficient because the claim language in conjunction with the specification is clearer and more consistent with the specification than Samsung’s interpretation that “call initiation signals” are “any signal indicating that a calling party is going to place a telephone call.” Moreover, Samsung’s construction is inconsistent with the plain and ordinary meaning of “call initiation signals” and how the specification of the ‘095 Patent describes “call initiation signals.” *See, e.g.*, ‘095 Patent at 5:2-9; *see also* Ex. 3 (Gitlin Declaration) at ¶21.

Therefore, the Court should adopt Nordic’s construction of “call initiation signals” as given their plain and ordinary meaning, or “part of a telephone number.”

B. The ‘097 Patent

1) “middleware software”

Nordic’s Construction	Samsung’s Construction
Software providing discovery of applications and/or services	“a software layer with an API that negotiates the communication between two applications to help an application find a counterpart application with the correct role”

Nordic and Samsung vary greatly in construing the term “middleware software.” Nordic’s construction that this term should be defined as “software providing discovery of applications and/or services” is supported by the claim language and the specification of the ‘097 Patent. Indeed, the ‘097 Patent specifies that “middleware software provid[es] advanced application and service discovery and execution.” ‘097 Patent at 10:8-10; *see also* ‘097 Patent, Fig. 5; *see also* Ex. 3 (Gitlin Declaration) at ¶¶ 26, 35. Claim terms are generally given their ordinary and customary meaning to a person of ordinary skill in the art, who is deemed to read each term both “in the context of the particular claim in which the disputed term appears” and “in the context of the entire patent, including the specification.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc); *see also Markman*, 517 U.S. at 389 (“a term

can be defined only in a way that comports with the instrument as a whole”). A claim term can only be interpreted “with a full understanding of what the inventors actually invented and intended to envelop with the claim.” *Phillips*, 415 F.3d at 1316 (internal quotation omitted). The specification is thus the “single best guide to the meaning of a disputed term” and is usually dispositive. *Id.* at 1315 (internal quotation omitted).

In addition, Fig. 5 of the ‘097 Patent provides a description of the “middleware software,” as described within the specification (*see, e.g.*, ‘097 Patent at 10:8-10; *see, also* Ex. 3 (Gitlin Declaration) at ¶27), showing the operation flow of the middleware software in application and service discovery (emphasis added in figure):

Figure 5

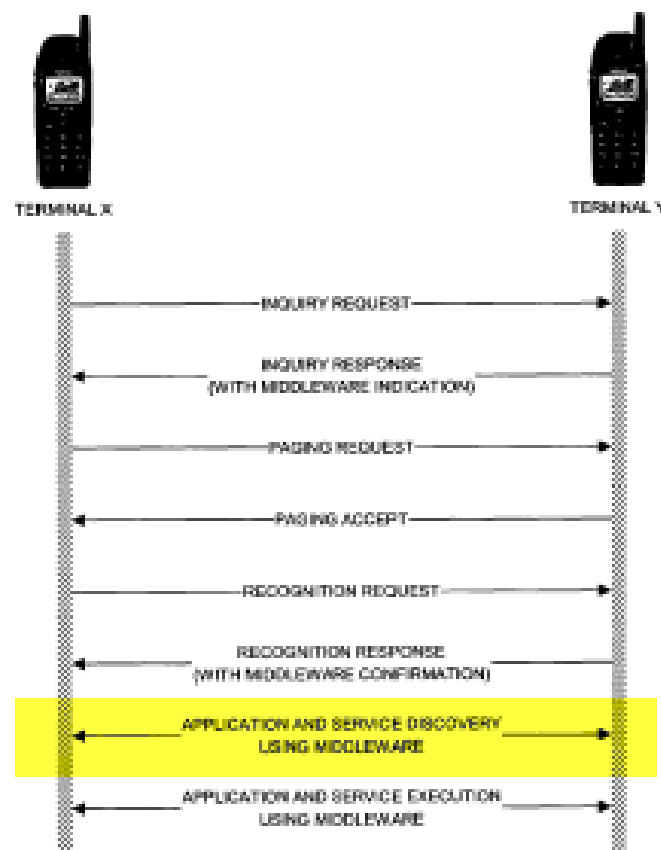


Fig. 5, ‘097 Patent

Nordic’s construction is also supported by extrinsic dictionary definitions. Courts may also rely on extrinsic evidence to aid in claim construction. *Id.* at 1317. Dictionary definitions are a form of extrinsic evidence that are “often useful to assist in understanding the commonly understood meaning of words” as long as they do not contradict a construction “ascertained by a reading of the patent documents.” *Id.* at 1322-23 (internal quotation omitted). Here, “middleware software” is understood by a POSITA to mean “software providing discovery of applications and/or services.” *See* Ex. 4 (Microsoft Computer Dictionary) at NORDIC001264-NORDIC001265 (“Software that sits between two or more types of software and translates information between them. Middleware can cover a broad spectrum of software and generally sits between an application and an operating system, a network operating system, or a database management system. Software development tools that enable users to create simple programs by selecting existing services and linking them with a scripting language”); *see also* Ex. 3 (Gitlin Declaration) at ¶ 29. Nordic’s definition is fully supported by a reading of the claims, the specification and the extrinsic evidence.

In contrast, Samsung’s construction improperly narrows middleware software to be defined according to specific embodiments from the specification. A construction should not import one embodiment into the claim language when the claim language and specification do not limit the term as such. *Superguide Corp. v. DirecTV Enter., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004). No recourse to Samsung’s convoluted definition is necessary based on a reading of the claim language, which makes no mention of “APIs” or “counterpart applications,” “correct role” and appearance of the combination of terms in Samsung’s proposed construction. *See* Ex. 3 (Gitlin Declaration) at ¶ 31.

Accordingly, the Court should adopt Nordic’s construction that “middleware software” is “software providing discovery of applications and/or services.”

2) “middleware layer” / “the middleware layer”

Nordic's Construction	Samsung's Construction
Software layer that includes middleware software	This term is indefinite

Nordic and Samsung also vary greatly in construing the term “middleware layer” / “the middleware layer” within the ‘097 Patent. Nordic’s construction that this term should be defined as “a software layer that includes middleware software” is supported by the specification of the ‘097 Patent. Specifically, the ‘097 Patent states that “the middleware layer includes dedicated middleware software providing advanced application and service discovery and execution.” ‘097 Patent at 10:8-10. Samsung, on the other hand, holds the position that “middleware layer” / “the middleware layer” is indefinite for lack of antecedent basis. Samsung should be reminded, though, that “a claim could be indefinite if a term does not have proper antecedent basis **where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable.**” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244,1249 (Fed. Cir. 2008)(emphasis added). Additionally, the mere fact that there may not be an explicit antecedent basis for the term does not render that term indefinite. *See Energizer Holdings v. ITC*, 435 F.3d 1366, 1370 (Fed. Cir. 2006) (citing *Manual of Patent Examining Procedure* §2173.05 (8th ed. Rev. 2, May 2004)). Instead, the requirement for definiteness leads to a determination of whether the meaning of the term is reasonably ascertainable or implied. Thus, although the antecedent basis is lacking for “middleware layer”, the meaning of the term “middleware layer” is reasonably ascertainable by a POSITA. In fact, not only is the meaning of the term reasonably ascertainable, the ‘097 Patent specifies that “the middleware layer includes dedicated middleware software providing advanced application and service discovery and execution.” *See, e.g.*, ‘097 Patent at 10:8-10; *see also* Ex. 3 (Gitlin Declaration) at ¶¶ 26, 35. Additionally, the definiteness inquiry “focuses on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the rest of the

specification.” *Union Pac. Res. Co. v. Chesapeake Energy Corp.*, 236 F.3d 684, 692 (Fed. Cir. 2001). Specifically, “when the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification, the claim is not subject to invalidity upon departure from the protocol of ‘antecedent basis.’” *Energizer Holdings*, 435 F.3d at 1370. Accordingly, if a POSITA were to read the claim language that contains the term “middleware layer” / “the middleware layer” in view of the ’097 Patent, the POSITA would understand that this term is directly related to what is described in col. 10 of the ’097 Patent, which states that “the middleware layer includes dedicated middleware software providing advanced application and service discovery and execution.” *See, e.g.*, ’097 Patent at 10:8-10; *see also* Ex. 3 (Gitlin Declaration) at ¶¶ 26, 35. In *Bose Corp. v. JBL, Inc.*, the court held that despite the absence of explicit antecedent basis, “if the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite.” *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001). Similarly, since “middleware layer” / “the middleware layer” is described at length in the specification and a POSITA in view of the specification can ascertain the meaning of the term, the term is not indefinite.

For the terms “middleware layer” and “the middleware layer,” Samsung improperly proposes that the terms are invalid as indefinite without proffering a necessary expert opinion as to the understanding of a person of ordinary skill in the art with respect to the ’097 Patent. That Samsung proposes that “middleware layer” and “the middleware layer” are indefinite cannot show that a POSITA would be unable to do so, and so Samsung cannot establish a prima facie case for invalidity under 35 U.S.C. § 112 based on these claim terms only on attorney argument. And even if Samsung’s attorney argument could make such a prima facie case, Nordic’s Declaration of Dr. Richard Gitlin in support of its opening claim construction brief proves that these terms are not indefinite, and that they should be interpreted according to

Nordic's proposed construction of "software layer that includes middleware software." *see* Ex. 3 (Gitlin Declaration) at ¶¶ 34-36.

VII. CONCLUSION

Nordic respectfully requests the Court adopt its proposed constructions of the disputed terms in both the '095 Patent and the '097 Patent.

Dated: October 29, 2020.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that, on October 29, 2020, a true and correct copy of the foregoing was served to all counsel of record via email.

/s/ Robert Christopher Bunt

ROBERT CHRISTOPHER BUNT